



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,357	01/11/2002	Beng S. Ong	D/A 1656	6796

7590 02/15/2006

Patent Documentation Center  
Xerox Corporation  
Xerox Square 20th Floor  
100 Clinton Ave. S.  
Rochester, NY 14644

EXAMINER

TRUONG, DUC

ART UNIT	PAPER NUMBER
----------	--------------

1711

DATE MAILED: 02/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/042,357	ONG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Duc Truong	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2-4,6,14-18 and 21-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4,6,14-18 and 21-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

Claim 2 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sato et al.

The reference discloses at least a hexyl substituted oligothiophenes having a specific structure (see page 986, last paragraph).

In the general formula in claim 2, if  $a=0$ ,  $b=c=d=1$ ,  $n=5$  and  $R=C_6H_{13}$  then the claimed formula is read on this of the reference.

The disclosure of the reference differs from the instant claim in that it neither disclose the claimed characteristics such as Mn or Mw nor the claimed conductivity.

However, the reference does disclose the required formula with the claimed variations. In view of this similarity, it would appear to be inherent that the claimed characteristics must be considered inherent in the prior art.

Claims 28 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0402269 in view of Sato.

The EP 0402269 discloses a process for the preparation of polythiophenes comprising reacting about 1 molar equivalent of a suitable monomer in an organic solvent (benzene) with about 1 molar equivalent of a ferric chloride at ambient temperature (see example 1 on page 9).

The disclosure of the reference differs from the instant claims in that it does not disclose the claimed formula. However, the reference does disclose the general formulae (see page 5) in that the claimed formula is included.

Art Unit: 1711

It would have been obvious to one of ordinary skill in the art to employ the polythiophenes, as disclosed in Sato, in the claimed process of EP 0402269, in order to gain the advantages of the combination of the references, that being polythiophenes can be used in electroluminescence device such as LED, or semi-conductor devices. The determination of said polythiophenes of Sato in the claimed process of EP 0402269 would not provide any unexpected results to one of ordinary skill in the art.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato.

The reference discloses a process for the preparation of oligothiophenes by a reductive coupling reaction of dibromo-dihexyl terthiophene in the presence of Zn and activated Nickel and triphenyl phosphine at a temperature of 70 C in 5 hours.

The disclosure of the reference differs from the instant claim in that it does not disclose the claimed catalytic system. However, the reference does disclose the general teachings of said system in that the claimed catalytic system is included.

It would have been obvious to one of ordinary skill in the art to modify the catalytic system from the reference within the limitation of the instant claim since they have been shown to be effective in a similar system and thus would have been expected to provide adequate results. There is no showing of unexpected results derived from said modification.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140

Art Unit: 1711

F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2-4, 6, 14-18, and 21-27 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4-14, 18 of U.S. Patent No. 6,872,801. Although the conflicting claims are not identical, they are not patentably distinct from each other because the differences are:

In the instant claim 2, if  $a=0$ , and in claim 1 of 6,872,801 if B=hydrogen and  $d=0$ , then they are read on each other in that all formulae in the instant claims 3-4 are included in the general formula in claim 2. Therefore, it would have been obvious to one of ordinary skill in the art to modify the variations of the formula from the claims of the reference within the limitation of the instant claims to get the products of the claimed formulae in the absence of a showing of unexpected results derived from said modification.

Claims 2-4, 6, 14-18, and 21-31 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 19, 21-23 of U.S. Patent No. 6,897,284. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the references do not disclose all of the species in claims 3-4. However, the reference does disclose at least species

Art Unit: 1711


(4)-(6) in claim 19, which are identical with species (II-d; II-e; II-f) in the instant claim 3, and the steps of the process to form the polythiophenes of the claimed Mw and Mn; therefore, it would have been obvious to one of ordinary skill in the art to select reactants under conditions from the claims of the reference within the limitation of the instant claims since they have been shown to be effective in a similar system and thus would have been expected to provide adequate results. There is no showing of unexpected results derived from said selection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Truong whose telephone number is 571-272-1081. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DT



DUCTRUONG  
PRIMARY EXAMINER